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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,943	01/20/2004	Hong Peng		4492

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HONG PENG
42874 VIA NAVARRA
FREMONT, CA 94539

EXAMINER	
STAFIRA, MICHAEL PATRICK	
ART UNIT	PAPER NUMBER
2877	

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/761,943	PENG, HONG	
	Examiner	Art Unit	
	Michael P. Stafira	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-23 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-8,12-14 and 18,21 is/are rejected.

7)☒ Claim(s) 9-11,15-17,19,20,22 and 23 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 1/20/2004.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-8, 12-14, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohtake et al. ('029).

Claim1

Ohtake et al. ('029) discloses a container (Fig. 6, Ref. G) that can hold a biological liquid medium (Fig. 6, Ref. a) and at least a part of its wall is optically transparent; a detecting probe mounted outside of said container comprising at least one light emission source (Fig. 6, Ref. H) and at least one photodetector (Fig. 6, Ref. I); wherein means for the photodetector to directly detect transmitted light by the biological liquid medium (Fig. 6, Ref. a) in the container (Fig. 6, Ref. G) when the emitted light beam from the light source strikes and interacts with the liquid medium through the transparent part of the container (See Fig. 6).

Ohtake et al. ('029) discloses the claimed invention except for an analog and digital processing means. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Ohtake et al. ('029) with the analog and digital processing means since it was well known in the art that using an analog and digital processing means converts the electrical signal into a form that is easier to maintain, therefore increasing the reliability of the measurement.

Ohtake et al. ('029) further discloses displaying the related data (Fig. 3, Ref. R)

Fig.6

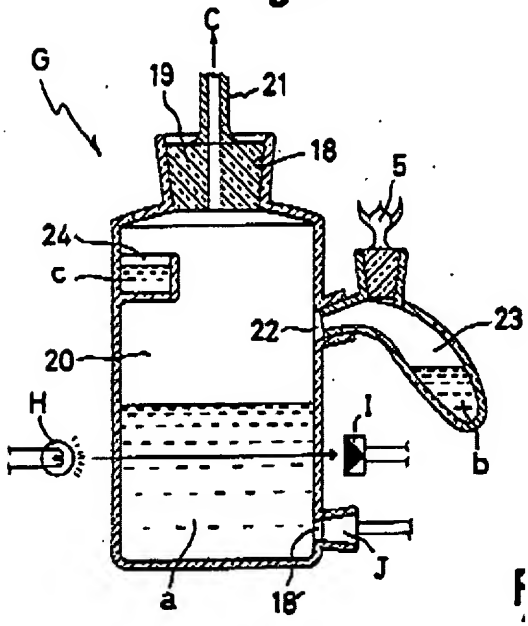
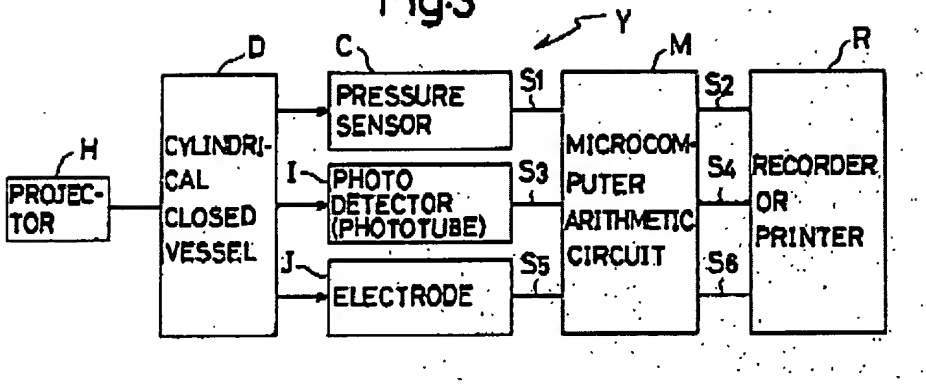


Fig.3



Claim 2

Ohtake et al. ('029) discloses the claimed invention except for a container fixture. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Ohtake et al. ('029) with the container fixture since it was well known in the art that using a fixture to hold your container adds stability to the apparatus, therefore increasing

the reliability of the measurement. (Further it would be obvious that the reference of Ohtake et al. ('029) has some sort of holding device but is not shown for illustration purposes.)

Claim 3

Ohtake et al. ('029) discloses the claimed invention except for laser diode and a focus lens for generate a light beam and a photodiode. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Ohtake et al. ('029) with the laser diode, focus lens, and photodiode since it was well known in the art that using these type of optical elements decreases the amount of maintenance, therefore reducing the cost to operate the apparatus.

Claim 4

Ohtake et al. ('029) discloses the claimed invention except for an analog and digital converter and microprocessing means. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Ohtake et al. ('029) with the analog and digital converter and microprocessing means since it was well known in the art that using an analog and digital converter and microprocessing means converts the electrical signal into a form that is easier to maintain, therefore increasing the reliability of the measurement.

Claim 5

Ohtake et al. ('029) discloses the claimed invention except for an analog and digital converter and a computer. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Ohtake et al. ('029) with the analog and digital converter and computer since it was well known in the art that using an analog and digital

converter and computer converts the electrical signal into a form that is easier to maintain, therefore increasing the reliability of the measurement.

Claim 6

Ohtake et al. ('029) further the liquid medium container for biological culture has a volume between 50 ml and 5000 ml (See Fig. 4).

Claim 7

Ohtake et al. ('029) further discloses the medium container is an ordinary and transparent Erlenmeyer flask with a volume between 50 ml and 5000 ml (See Fig. 4).

Claim 8

Ohtake et al. ('029) further discloses the biological substance is microorganism (Fig. 6, Ref. a).

Claim 12

Ohtake et al. ('029) discloses the steps of utilizing a container (Fig. 6, Ref. G) to hold a biological liquid medium (Fig. 6, Ref. a) and at least a part of wall of the container is optically transparent. positioning a light emission source relative to the container transparent wall and irradiating light beam through and interacting with the biological medium even the medium is agitated (See Fig. 6); positioning and aiming a photodetector (Fig. 6, Ref. I) to detect light from the interacting area of the biological medium (Fig. 6, Ref. a); positioning both the light emission source and the photodetector outside of the medium container (See Fig. 6); fixing the position of the medium container with respect to that of the light emission source and the photodetector when measurement occurs (See Fig. 6);

Ohtake et al. ('029) discloses the claimed invention except for an analog and digital processing means. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Ohtake et al. ('029) with the analog and digital processing means since it was well known in the art that using an analog and digital processing means converts the electrical signal into a form that is easier to maintain, therefore increasing the reliability of the measurement.

Claim 13

Ohtake et al. ('029) further discloses means for positioning and aiming the photodetector to detect the scattered light from the interacting area of the biological medium and that area is the entry or near entry area of the emission light entering the medium (See Fig. 6).

Claim 14

Ohtake et al. ('029) discloses the claimed invention except for incubating the biological substance in the container. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Ohtake et al. ('029) with incubating the substance since it was well known in the art that growing the biological sample in the container reduces the amount of transfers of the sample to different containers and therefore reduces the amount of time for prepping the sample.

Claim 18

Ohtake et al. ('029) discloses the claimed invention except for shielding the container with a dark cover. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Ohtake et al. ('029) with a dark cover since it was well

known in the art that using a dark cover increases the sensitivity of the measurement, therefore giving more accurate measurements.

3. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reed ('150).

Claim 21

Reed ('150) discloses a biological liquid medium container (Fig. 5, Ref. 92) has a volume between 50 ml and 5000 ml and at least a part of its wall is transparent; a turbidity detecting probe mounted outside of the container comprising at least one light emission source (Fig. 5, Ref. 23) and at least one photodetector (Fig. 5, Ref. 41); wherein means for the photodetector (Fig. 5, Ref. 41) to directly detect scattered light by a biological medium in the container (Fig. 5, Ref. 92) when the emitted light beam from the light source strikes and interacts with the biological medium (See Fig. 5).

Ohtake et al. ('029) discloses the claimed invention except for an analog and digital processing means and converter. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Ohtake et al. ('029) with the analog and digital processing means since it was well known in the art that using an analog and digital processing means converts the electrical signal into a form that is easier to maintain, therefore increasing the reliability of the measurement.

Ohtake et al. ('029) further discloses a digital microprocessor and a display unit (Fig. 7, Ref. 112).

Allowable Subject Matter

4. Claims 9-11, 15-17, 19-20, 22-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Stafira whose telephone number is 571-272-2430. The examiner can normally be reached on 4/10 Schedule Mon.-Thurs..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley can be reached on 571-272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael P. Stafira
Primary Examiner
Art Unit 2877

November 21, 2005